

ABSTRACT OF THE DISCLOSURE

5 A high-speed routing search is realized by  
a hierarchial routing table, while a conventional  
network having a hierarchial network as a backbone  
10 performs conventional operations without being aware  
of the hierarchial backbone network, in a mixed  
environment of the hierarchial and non-hierarchial  
networks, by assigning the non-hierarchial network a  
virtual hierarchy number equivalent to a hierarchy  
15 number in the hierarchial network, attaching the  
virtual hierarchial number to a packet to be relayed  
at a router located at an entrance from the non-  
hierarchial network to the hierarchial network,  
performing hierarchial routing control by the  
20 virtual hierarchy number within the hierarchial  
network, and by removing the virtual hierarchy  
number from the packet to be relayed at a router  
located at an exit from the hierarchial network to  
the non-hierarchial network.

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